United States Department of Energy Nuclear Criticality Safety Program (NCSP)

# **HANDS-ON TRAINING & EDUCATION COURSE**



### REMARKABLE FEEDBACK AND RATINGS FROM:

"criticality safety professionals, supervisors and managers, fissile material operations managers/handlers"

The Department of Energy's Nuclear Criticality Safety Program (NCSP) offers two distinct hands-on training and education courses that are free to participants. The first course is for Criticality Safety Professionals (CSP) who prepare and/or review Criticality Safety Evaluations, and the second course is for managers with Nuclear Criticality Safety (NCS) responsibilities, fissile material operators, and process supervisors. Both courses have been designed and taught by a team of NCS experts to provide the requisite training for *consistent implementation* of NCS requirements in accordance with DOE Orders, Guides, Rules and ANS standards. The NCS training team includes experts from Los Alamos National Laboratory, Sandia National Laboratory, Lawrence Livermore National Laboratory, Oak Ridge National Laboratory, and the Department of Energy-National Nuclear Security Administration (DOE NNSA). Oak Ridge National Laboratory coordinates the courses for the NCSP.











Since initiating the 2-week course in August 2011, 80 CSPs have taken the course, and since initiating the new 1-week course in April 2013, 10 participants have taken the course offered to managers with NCS responsibilities, fissile material operators, and process supervisors. Participants have provided <u>very positive</u> feedback from course evaluation forms. 97% of course rankings were marked at the highest standards in ALL areas!!! We are well-pleased with the outcome of our mission to make a stronger, informed NCS community!!

### COURSE EVALUATION FEEDBACK FROM STUDENTS

- "Overall the course was an excellent introduction to criticality safety. It really helped to make an impression on how important criticality safety is to the work and conduct of operations. This course would be very beneficial to most anyone working in a fissionable material environment."
- "The course provided the history, technical basis, practical implementation and review of accidents and regulatory content necessary for an overall understanding of CSE implementation requirements."
- "The course is great and provides the training I need for my job."
- "This course provided hands-on reinforcement of literal skills development for effective NCS."
- "This course did a superb job of ensuring that students understood the framework for what is involved in becoming an expert in NCS."
- "The course was well-designed and user-friendly . Outstanding course!" Thank you!



















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"criticality safety engineers, supervisors and managers, fissile material operations managers/handlers"

#### **COURSE OVERVIEW**

The course for CSPs is for two consecutive weeks: a week of classroom training followed by a week-long hands-on training. The purpose of this course is to provide an experimental hands-on training experience addressing important characteristics of neutron-multiplying systems, which include:

- discussion of the theory and implications for safety of fissionable material operations;
- providing awareness and understanding of DOE mandates developed specifically for criticality safety professionals (CSPs), regarding application of DOE Orders, Guides, Rules, and ANS standards in performance of criticality safety evaluations that meet DOE standards and hazards analysis methods and implementation/maintenance of nuclear criticality safety (NCS) controls.

The week-long course for managers with criticality safety responsibilities, supervisors and fissile material operators is designed to provide an experimental hands-on training experience addressing important characteristics of neutron-multiplying systems, which include:

- awareness of fissile material in process operations, along with discussion of the theory and implications for safety of fissionable material operations;
- awareness and understanding of DOE mandates developed specifically for fissile material operators, process supervisors, and managers with NCS responsibilities, regarding application of DOE Orders, Guides, Rules, ANS standards in performance of criticality safety evaluations that meet DOE standards and hazards analysis methods and implementation/maintenance of NCS controls, with respect to the roles and responsibilities of those who are involved.

Los Alamos National Laboratory: for initial classroom training

Sandia National Laboratory: for hands-on training for students with or without clearances

Nevada National Security Site: for hands-on training for students with Q/L clearances

















